REMARKS/ARGUMENTS

Opening Remarks: Responding to the action of the Examiner in Office Action mailed 11/30/2004, the Applicants note that the Examiner relies on the teachings of *Baehr et al* U.S. Patent Number 5,839,050 (hereinafter Baehr) in view of *August et al* U.S. Patent Number 6,389,055 (hereinafter August) for the rejection of claims 1-20 under 35 U.S.C. § 103(a).

Briefly, upon reviewing Baehr, contrary to the Examiner's assertion, there are appreciable and significant differences between the methods for taught by Baehr and those taught by the Applicants. In particular,

1. Baehr teaches a method for detecting a radiated "intermediate frequency signal generated by all conventional radio...receivers..." (col 5, lines 66 – col 6, line 4) from a passing car using a scanning receiver situated adjacent to a roadway (col 6, lines 42-43). In fact, Baehr has misstated the true nature of the signal radiated by conventional AM and FM receivers that is detected by their method. It is obvious from their description (col 6, lines 4-29) that Baehr's "intermediate frequency signal" is actually the local oscillator (LO) signal generated by a conventional (superheterodyne) receiver. The LO frequency is unique to each broadcast signal, while that of the intermediate frequency (IF) signal is not. For conventional AM receivers, the IF signal is always at 455 kHz; for conventional FM receivers, the IF is always 10.7 MHz. Therefore, if the IF signal were to be sensed, Baehr's frequency-scanning method would be inoperative because all broadcasts in a band would have the same IF. Note also that the LO signal is generated locally within a conventional receiver and contains no modulation and, hence, no broadcast audio or program content. Furthermore, 98-MHz high-pass FM screening filter 34

(Fig. 2) would exclude the 10.7 MHz IF signal supposedly being detected. This filter passes FM LO frequencies, which are greater than 98 MHz. Baehr declares a "hit" when the roadside scanner detects an LO signal from a passing vehicle. Nowhere, does Baehr suggest, explicitly or otherwise, comparing broadcast program content of any kind received at separated locations, distant or nearby.

In contrast, the Applicants disclose relaying the demodulated broadcast audio-frequency program content from within a vehicle to a processing site that may be removed some considerable distance. There the relayed audio content is compared with the audio contents of broadcast signals separately received at the processing site. This comparison produces the desired data, or "hits".

2. Baehr further teaches collecting sensed "hits" (Baehr's "raw data" comprises time-stamped, sensed frequency values) at the roadside processor, and subsequently communicating that raw statistical data or database periodically to a central location. A cellular telephone data link may be used for communicating said statistical data.

In contrast, the Applicants disclose using a cellular telephone to relay part of all of the demodulated broadcast audio content such as heard by a listener in a vehicle to a central location in real time without performing any local data collection or processing. Furthermore, a conventional or unconventional radio receiver may be used.

3. August teaches modulating a data stream using spread-spectrum techniques and embedding said stream in a perceptible audio signal, which may be broadcast program material. The modulated data stream is

imperceptible to the listener. In certain embodiments, capture or receive device 110 may sense the composite audio signal and typically has special features to decode or otherwise process the embedded data stream. In one embodiment, capture device 110 is an unmodified mobile or cellular telephone that merely relays the entire audio signal to a central site where the embedded data stream is recovered and decoded. August does not suggest or discuss, explicitly or otherwise, processing the regular program material in which the data stream is embedded. Furthermore, nowhere does August, explicitly or otherwise, suggest or discuss comparing broadcast signals received at separate locations.

Misunderstood Reference. The Applicants respectfully submit that Baehr does not teach what the Examiner relies upon it as supposedly teaching. In particular, in his rejection of base claims 1 and 14, the Examiner states: "...Baehr teaches an apparatus and method...wherein one or more broadcast signals are received (see left side of figure 2 wherein FM or AM [are] received and converted to digital [sic] enabling microprocessor 44 to store..." However, figure 1 clearly shows that the received signals radiate from the vehicle and are not FM or AM broadcast signals at all. The Applicants have noted above that said radiated signals are actually LO signals, which contain no broadcast material. Applicants believe that Baehr's misidentification of the LO signal as the IF signal has misled the Examiner.

Even if Baehr's apparatus were to receive broadcast signals, such signals are not digitized ("converted to digital") and fed to microprocessor 44. Figure 2 clearly shows that any and all received signals are passed to a digitally tuned scanning receiver, which senses the presence or absence of a signal at a particular frequency (col 8, lines 9-10). It is the presence or absence of said

signal that constitutes the raw data fed to microprocessor 44. Nowhere does Baehr discuss or suggest, explicitly or otherwise, digitizing a broadcast signal.

Irrelevant Combination Suggested. The Examiner asserts that "...It would have been obvious for any one of ordinary skill to modify the processing module (item 22 in figures 1 and 3) as taught by Baehr with the ability to receive and decode advertisement data as taught by August thereby allowing the advertiser to determine which radio stations transmitted their advertisement..." However, even if this were possible, Applicants' invention nevertheless employs an entirely different principle of operation from that of the combination suggested by the Examiner. Receiving and decoding advertisement data is not part of Applicants' invention nor is it taught by or claimed by the Applicants. Nor does Applicants' invention require embedding any code of any type in broadcast program material.

The Applicants' invention teaches a method and apparatus for determining the source of a broadcast signal by comparing audio frequency broadcast program material separately received at two locations. Therefore, Applicants respectfully submit that the combination suggested by the Examiner is irrelevant, and that rejection of Claims 1-20 on the basis of this suggested combination would be improper.

Both References Teach Away. Baehr does not suggest, explicitly or otherwise, capturing or processing broadcast program material or content in any way. In fact, Baehr considers broadcast signals per se to be a nuisance. Specifically, FM screening filter 34 explicitly eliminates FM broadcast signals in the 88-98 MHz half portion of the FM broadcast band (Figure 2).

August does not suggest, explicitly or otherwise, processing program material intended for human perception. In fact, in connection with Figure 9, August

teaches imposing an electrical or acoustic filter 500 to attenuate human voice frequencies and only pass the encoded data stream. Figure 2 shows the response curve 58 of such a filter and the suppressive effect on voice and normal broadcast program content frequency bands. August clearly teaches suppression of broadcast program material and content.

It is seen that both Baehr and August separately and independently teach away from processing broadcast program content. Therefore, the Applicants respectfully submit that rejection of claims 1-20 on the basis that it would be obvious to modify or combine any teachings by Baehr or August would be improper.

Inoperable Combination. The Examiner suggests that it would be possible to modify processing module 22 (Figure 1 and 3) to provide "the ability to receive and decode...data as taught by August..." However, the input to processor 22 is a stream of data words representing the frequencies sensed by scanning receiver 42 plus time stamps (col. 8, lines 9-10). These contain no information regarding broadcast program content, whether that content also comprises encoded data or not. Processor 22 cannot be modified in any way to process data that is not provided to it. Furthermore, even if the Examiner's suggested combination were expanded beyond the Examiner's proposal to encompass possible modification of scanning receiver 42 to extract encoded data, the LO signals provided to receiver 42 are un-modulated, and themselves contain no program content, material, or data that could be decoded. Therefore, the Applicants respectfully submit that rejection of claims 1-20 on the basis that it would be possible to modify processing module 22 would be improper.

Unsuggested Modification. Before claims 1-20 can be deemed obvious under 35 U.S.C. § 103, there must be an "essential evidentiary component of

Accordingly, Applicants respectfully submits that amended claims 1-15 and amended claims 17-20 are allowable over Baehr and solicits reconsideration and allowance.

Base Claim 1: The Applicants have amended base claim 1 to recite clearly the audio-frequency contents of the two signals being compared. As discussed above, Applicants' base claim 1 describes a functionally and structurally different method from those taught by Baehr and August, and from the combination of Baehr and August suggested by the Examiner. Further, before claim 1 can be deemed obvious under 35 U.S.C. § 103 there must be an "essential evidentiary component of obviousness holding"—i.e., a teaching or suggestion or motivation to combine the features of some other relevant reference with those of Baehr. Accordingly, base claim 1 and all dependent claims incorporating the respective limitations of base claim 1 are thought to define allowable subject matter. Therefore the Applicants respectfully solicit reconsideration and a Notice of Allowability to that effect.

Dependent Claim 2: While August teaches using a mobile telephone, nowhere does August, explicitly or otherwise, discuss or suggest comparing the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claim 2 is thought to define allowable subject matter. Therefore, Applicants solicit reconsideration and a Notice of Allowability to that effect.

Dependent Claim 3: As discussed above, Applicants respectfully submit that Baehr does not teach receiving radio broadcasts. Rather, Baehr teaches receiving LO radiation and suppression of radio broadcast signals. Nowhere does Baehr, explicitly or otherwise, discuss or suggest comparing the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claim 3 is thought to define allowable subject matter. Therefore the

obviousness holding"---i.e., a teaching or suggestion or motivation to combine the features of some other relevant reference with those of Baehr. Neither the teachings of Baehr nor those of August contain any suggestion, explicit or otherwise, that they be combined in the manner suggested by the Examiner to determine the source of a broadcast signal. Baehr senses the frequency of the LO signal from a conventional receiver in a passing car to ascertain said source. There is no need, use, or motivation for embedding encoded or any other data in the broadcast signal, as taught by August. Adding encoded or any other data would not alter or improve the method taught by Baehr. Baehr is individually complete.

Similarly, August is individually complete. Because data, as taught by August, from which the broadcast station identity may be ascertained, is embedded in the program material, there is no need, use, or motivation for additional scanning processes. Adding scanning capability would not improve, and in fact would needlessly complicate, the method taught by August.

Accordingly, the Applicants respectfully submit that rejection of claims 1-20 under 35 U.S.C. § 103 would be improper.

REMARKS – Claims: Notwithstanding the above, the Applicants have amended the claims to define the invention more particularly and distinctly, emphasize improvements of the invention, and define the invention patentably over the prior art. Claims 1-15 and 17-20 remain in this application. Claim 16 has been canceled.

Applicant respectfully solicits reconsideration and a Notice of Allowability to that effect.

Dependent Claims 4-5: While August teaches audio portion of a television broadcast and broadcast from a satellite, nowhere does August, explicitly or otherwise, discuss or suggest comparing relayed audio with separately received audio from a television or satellite broadcast. Accordingly, dependent claims 4-5 are thought to define allowable subject matter. Therefore, Applicants solicit reconsideration and a Notice of Allowability to that effect.

Dependent Claims 6-9: The Applicants have rewritten dependent claims 6-9 to recite clearly and distinctly the nature of the statistical processing means. Baehr teaches collecting raw "hit" results to form a statistical data base. In the Applicants' invention, mathematical processes known to statistical communications theory known as cross-correlation and co-spectral analysis are applied to a pair of audio signals in order to make a matching, or "hit", decision. Applicants respectfully submit that the Examiner may have confused the type of statistical analysis taught by Baehr and that of the Applicants' invention. Nowhere does Baehr, explicitly or otherwise, discuss or suggest comparing, statistically or by any other means, the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claims 6-9 are thought to define allowable subject matter. Therefore the Applicant respectfully solicits reconsideration and a Notice of Allowability to that effect.

Base Claim 14: The Applicants have rewritten base claim 14 to recite clearly and distinctly the nature, purpose, and function of the combination comprising our apparatus. As discussed above, Applicants' base claim 14 describes a functionally and structurally different apparatus from those taught by Baehr and August, and from the combination of Baehr and August suggested by the

Examiner. Further, before base claim 14 can be deemed obvious under 35 U.S.C. § 103 there must be an "essential evidentiary component of obviousness holding"—i.e., a teaching or suggestion or motivation to combine the features of some other relevant reference with those of Baehr. Accordingly, base claim 14 and all dependent claims incorporating the respective limitations of base claim 14 are thought to define allowable subject matter. Therefore the Applicants respectfully solicit reconsideration and a Notice of Allowability to that effect.

Dependent Claim 15: The Applicants have rewritten dependent claim 15 to recite clearly and distinctly the reporting of source identification decisions. Baehr teaches matching the frequencies of received LO radiations from passing vehicles with those of known broadcast transmitters. Nowhere does Baehr, explicitly or otherwise, discuss or suggest comparing the audio from a mobile telephone with separately received broadcast audio. August teaches embedding in data or information in a broadcast signal, and then subsequently decoding and matching that data or information with the original known data or information. Nowhere does August, explicitly or otherwise, discuss or suggest comparing the audio from a mobile telephone with separately received broadcast audio, with or without embedded data or information. Accordingly, dependent claim 15 is thought to define allowable subject matter. Therefore the Applicant respectfully solicits reconsideration and a Notice of Allowability to that effect.

Dependent Claims 17-18: The Applicants have amended claim 17 to refer to claim 15. Nowhere does Baehr, explicitly or otherwise, discuss or suggest determining listenership and demographic information by comparing, statistically or by any other means, the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claims 17-18 are thought to define allowable subject matter. Therefore the Applicant respectfully solicits reconsideration and a Notice of Allowability to that effect.

Dependent Claims 19-20: The Applicants have amended dependent claims 19-20 (as well as dependent claim 18) to recite clearly and distinctly broadcast-signal source identification. Nowhere does August, explicitly or otherwise, suggest or discuss providing subscribers with information by comparing, statistically or by any other means, the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claims 19-20 thought to define allowable subject matter. Therefore the Applicant respectfully solicits reconsideration and a Notice of Allowability to that effect.

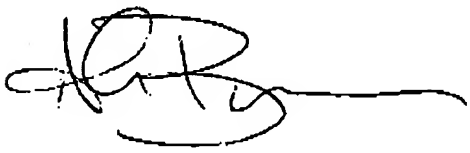
CONCLUSION

Amended base claims 1 and 14, dependent claims 2-13, dependent claim 15, and dependent claims 17-20 are thought to describe subject matter that is not obvious in view of Baehr as modified by the teachings of August, per 35 U.S.C. § 103. For all of the reasons given above, Applicants respectfully submit that the claims are in proper form, and that the claims all define patentability over the prior art. Accordingly, Applicants submit that this application is now in full condition for a timely Notice of Allowance, which action Applicants respectfully solicit.

Conditional Request for Constructive Assistance

The Applicants has amended the claims of this application so that they are proper, definite, and define novel structure that is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, the Applicants respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P § 2173.02 and § 707.07(j) in order that the Applicants can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully,



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